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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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08/997,219 12/23/97 YAMAHARA

47964

MM42/1012  
DIKE BRONSTEIN ROBERTS & CUSHMAN  
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BOSTON MA 02109

PARKER, K

EXAMINER

2871

DATE MAILED:  
10/12/99

ART UNIT	PAPER NUMBER
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

## Office Action Summary

Application No. 08/997,219	Applicant(s) Yamaha
Examiner Kenneth Parker	Group Art Unit 2871

Responsive to communication(s) filed on \_\_\_\_\_.

This action is FINAL.

Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

### Disposition of Claims

Claim(s) 1-28 is/are pending in the application.

Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

Claim(s) \_\_\_\_\_ is/are allowed.

Claim(s) 1-28 is/are rejected.

Claim(s) \_\_\_\_\_ is/are objected to.

Claims \_\_\_\_\_ are subject to restriction or election requirement.

### Application Papers

See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

The proposed drawing correction, filed on \_\_\_\_\_ is  approved  disapproved.

The specification is objected to by the Examiner.

The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. § 119

Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

All  Some\*  None of the CERTIFIED copies of the priority documents have been received.

received in Application No. (Series Code/Serial Number) \_\_\_\_\_.

received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

### Attachment(s)

Notice of References Cited, PTO-892

Information Disclosure Statement(s), PTO-1449, Paper No(s). 5

Interview Summary, PTO-413

Notice of Draftsperson's Patent Drawing Review, PTO-948

Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

## DETAILED ACTION

### *Specification*

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The statement "a liquid crystal material of which the refractive index anisotropy is specified to vary with wavelengths of rays of light within a range that allows no viewing angle dependent coloration to occur on a liquid crystal screen" is ambiguous. First, on what liquid crystal screen is this referring to? Is it the claimed invention, or a hypothetical screen? Second, it must be the compensation occurs for some specific liquid crystal configuration (assuming it is for a hypothetical screen), such as in a cell which is untwisted and in an unpowered state. This is the assumption used for examination purposes. If the cell was intended on being the current cell, and that therefore the curve of the liquid crystal material was not specified by this, a first paragraph rejection may need to be applied. Additionally, art rejections art rejections may be applied.

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In claims 20-28 (at least through dependency), the delta n\*d includes the z axis parameter instead of the x and y axis (in plane) parameters. In other word, it should be "a" and "c", not "b".

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-28 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The specification does not make clear enough what is being claimed as far as what the dependency of the index of refraction with respect to wavelength needs to be. As discussed above, it is unclear if the index is such that, in a parallel cell (or some other cell), in an unpowered state, the wavelength response is set so that the color is viewing angle independent, or if the current cell is set up to give the desired end goal of viewing angle independence. If the latter two were the intended meaning, further problems would exist because the specification does not give sufficient details on what the curve needs to be, presumably particular curves must also exist for the birefringent plates also. Even if, for some of the disclosed embodiments, it was considered that there was sufficient description, that description would not be sufficient for other than the disclosed embodiments.

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***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Sahouani et al, U.S. patent # 5,867,239 discloses a liquid crystal with the same structure as claims 1-14, excepting the limitation rejected under 112 above, and the details of claim 14 which were commonly employed at the time. Xu et al, U.S. Patent # 5,739,881 is structurally the same as claims 15-28 excepting the limitation rejection under 112 above, and the details of claim 28 which were commonly employed at the time. Depending upon how the language rejected under 112 above is interpreted, these references may be relevant.

Wada et al, U.S. Patent 3 5,343,317, discusses the coloration problem.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth Parker whose telephone number is (703) 305-6202. The fax phone number for this Group is (703) 308-7722. Any inquiry of a general nature or relating to the status of this application or preceding should be directed to the Group receptionist whose telephone number is (703) 308-0956.

September 26, 1999

  
KENNETH ALLEN PARKER  
PATENT EXAMINER  
GAU 2871